

VIRGINIA DEPARTMENT OF TRANSPORTATION

MATERIALS DIVISION

MEMORANDUM

GENERAL SUBJECT: Manual of Instructions Chapter III – Geotechnical Engineering	NUMBER: MD 399-16
SPECIFIC SUBJECT: Investigation Requirements for Trenchless Pipe Applications	DATE: Apr 19, 2016
	SUPERSEDES:
APPROVED: <div style="text-align: right;">Charles A. Babish, PE State Materials Engineer Approved: _____</div>	

EFFECTIVE DATE

- This memorandum is effective upon being published.

PURPOSE

- This Memorandum notifies the users of the VDOT's Materials Division Manual of Instructions that Table 3-1 of Chapter III has been revised to include geotechnical investigation for trenchless pipe applications. See attached supplement to Table 3-1.

TABLE 3-1 – GUIDELINES FOR MINIMUM NUMBER OF INVESTIGATION POINTS AND DEPTHS OF INVESTIGATION		
Application	Min. Number and Location of Exploration Points	Minimum Depth of Investigation
Trenchless Pipe Applications (pipe dia 24" or greater; 12" or greater for HDD)	A minimum of one exploration shall be performed at each of the anticipated jacking and receiving pit locations. If the distance between the pit locations is greater than 100 feet, additional explorations shall be performed at a maximum spacing of 100 feet along the pipe alignment. If the distance between the pit locations is between 50 and 100 feet, one additional exploration shall be performed near the midpoint of the pipe alignment, unless waived by the District Materials Engineer. For known horizontal directional drilling (HDD) applications, explorations shall be offset at least two pipe diameters or 10 feet (whichever is greater) from the pipe centerline and in a staggered pattern. For all other applications, explorations shall be performed along the pipe centerline. For multiple parallel pipe arrays, the explorations shall be offset in a staggered pattern. In certain subsurface environments (i.e. karst), geophysical investigation methods and/or horizontal explorations may be warranted, subject to the approval of the District Materials Engineer.	The jacking and receiving pit explorations shall extend at least 10 feet below the pipe invert elevation or to rock, whichever occurs first. The pipe alignment explorations shall extend at least 5 feet or two pipe diameters below the invert elevation (whichever is greater) or to rock, whichever occurs first. For pipe alignment explorations, continuous SPT sampling shall be performed from at least one pipe diameter above the top of pipe to boring termination. Where the presence and/or character of rock may have a significant impact on the pipe design or installation, a minimum of 5 feet of rock coring shall be performed in at least one exploration

REFERENCES

- *Synthesis of Trenchless Technologies, Final Report VCTIR 15-R16*, June 2015

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